UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,563	01/30/2004	Rajarshi Das	YOR920040007US1	6337

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Moser, Patterson & Sheridan
Suite 100
595 Shrewsbury Avenue
Shrewsbury, NJ 07702

EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2195	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 December 2008</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>35</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claim 35 is presented for examination.

2.   Applicant's arguments have been fully considered but are moot in view of the new

grounds of rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   **Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rolia (US**

7,310,672 B2) (hereinafter Rolia) in view of Agarwal et al. (hereinafter Agarwal) (US

2003/0028642 A1).

4.   As to claim 35, Rolia teaches an automated method for allocating resources among a

plurality of resource-using computational entities in a data processing system (Abstract, Fig. 3,

items 320, 330, 340, 322, 332, 342, col. 15, lines 30-60), the method comprising:

establishing a service-level utility for each of said plurality of resource-using

computational entities, wherein the service-level utility is representative of an amount of

business value obtained by each of said plurality of resource-using computational entities for one

or more levels of performance and demand associated with each resource-using computational

entity (service level objectives that define performance objectives or quality of service –QoS)

(col. 2, lines 18-44, col. 5, lines 40-48, col. 7, lines 40-57, col. 12, lines 63-67 through col. 13, lines 1-27);

transforming said service-level utility into a resource-level utility for each of said plurality of resource-using computational entities, wherein the resource-level utility is representative of an amount of business value obtained by each of said plurality of resource-using computational entities when a quantity of said resources is allocated to the resource-using computational entity, wherein the resource-level utility indicates, for at least one of said plurality of resource-using computational entities, an estimated cumulative discounted or undiscounted future utility starting from current state descriptions of said at least one resource-using computational entity (dynamic resource manager determines allocation based on mathematical model that includes the predicted metrics, demand values/metrics, service level objectives, etc. and can make determinations for the aggregated/entire system-wide level as well as local level) (col. 7, lines 40-57, col. 6, lines 1-35, col. 9, lines 23-37, col. 10, lines 20-51).

aggregating said resource-level utilities of all of said plurality of resource-using computational entities (dynamic resource manager can take into consideration both the aggregated/entire system-wide level as well as local level) (col. 11, lines 16-33 and 49-50, col. 7, lines 40-57, col. 9, lines 23-37, col. 10, lines 20-51);

computing a resource allocation from said resource-level utilities, as aggregated by executing an optimization method (dynamic resource manager can take into consideration both the aggregated/entire system-wide level as well as local level) (col. 11, lines 16-33 and 49-50, col. 7, lines 40-57, col. 9, lines 23-37, col. 10, lines 20-51) to maximize a total utility of said data processing system (col. 6, lines 9-20), wherein said resource allocation involves re-allocating at

least one of said resources from one of said plurality of resource-using computational entities to

another of said resource-using computational entities (dynamic resource manager performs

reallocation) (col. 14, lines 40-54) wherein said optimization (maximization of the objective

function) method comprises a standard linear or nonlinear algorithm (col. 14, lines 1-23); and

executing and conveying to the plurality of resource-using entities said resource

allocation (col. 2, lines 37-44, col. 15, lines 30-61).

5.   Rolia is silent in the training on a temporal sequence of observed data using an adaptive

machine learning procedure, and wherein the computing further comprises computing a cost that

is expected to be incurred as a result of said re-allocating. However, Agarwal teaches training on

a temporal sequence of observed data using an adaptive machine learning procedure, wherein the

resource allocation involves re-allocating at least one of said resources from one of said plurality

of resource-using computational entities to another of said resource-using computational entities,

and wherein the computing further comprises computing a cost that is expected to be incurred as

a result of said re-allocating ([0056], [0009], [0026], [0252], [0277], and [0281]). Rolia and

Agarwal are analogous art because they are both in the same field of endeavor of allocating

resources to a plurality of applications (see Abstract of both references). One of ordinary skill in

the art would have known to modify Rolia's resource allocation system such that it would

include the features of training on a temporal sequence of observed data using an adaptive

machine learning procedure and wherein the computing further comprises computing a cost that

is expected to be incurred as a result of said re-allocating, as taught in Agarwal's resource

allocation system. The motivation/suggestion for doing so would have been to provide the

predicted result of resource allocation that is dynamic and optimized, which would in turn,

maximize revenue ([0009] and [0014] of Agarwal). Therefore, one of ordinary skill in the art

would have known to combine Rolia and Agarwal to obtain the invention of claim 35.

Response to Arguments

6.   During patent examination, the pending claims must be "given their broadest reasonable

interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d

1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during

prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once

issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05,

162 USPQ 541, 550-51 (CCPA 1969).

7.   *Applicant argues that the cited references do not teach or suggest the newly amended*

claim limitations.

8.   Applicant's arguments have been fully considered but are moot in view of the new

grounds of rejections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH TANG whose telephone number is (571)272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/   /Kenneth Tang/
Primary Examiner, Art Unit 2194   Examiner, Art Unit 2195